

### **Abstract**

The invention concerns RAC-PK and fragments thereof, as well as activators and inhibitors of RAC-PK for use as medicaments, particularly in the treatment of diseases concerned with abnormalities in processes modulated by insulin, such as cellular proliferation, insulin deficiency and/or excess blood sugar levels. Moreover, the invention provides RAC-PK for use in screening potential mimics or modulators thereof. A method for screening for agents capable of affecting the activity of GSK3 is also disclosed. The invention further provides a screening kit comprising the RAC-PK as an active principle, and a method for screening compounds which are candidate mimics or modulators of RAC-PK activity comprising detecting specific interactions between the candidate compounds and RAC-PK. There is also provided a process for activating RAC-PK comprising treatment thereof with a phosphatase inhibitor.